

# NnG Supply Chain Events Welcome & introduction

David Sweenie, NnG Development Manager

02 – 05 March 2020 - East Lothian, **Fife**, Dundee, Aberdeen





- Welcome
- House keeping
- **❖** Safety moment
- **❖**Today's format

Fife Agenda: 09:30 - 12:30						
Major Theme	Times	Minor Theme				
Naturalina	08:30 - 09:30	Registration, networking and share fair stand engagement				
Networking	Who:	Facilitating Change / NnG Project Team				
	09:30 - 09:40	Welcome and introduction to event format				
Davidana / Dualast	Who:	David Sweenie, NnG Development Manager				
Developer / Project	09:40 - 09:50	Overview of EDF and NnG project				
	Who:	Matt Haag, NnG Project Director				
	09:50 - 10:05	Turbine OEM Package				
	Who:	Kel Elliot, Siemens Gamesa Renewable Energy, Senior Project Manager				
	10:05 - 10:20	Turbine Installation Package				
Turbines	Who:	Henrik Mork, Fred. Olsen Windcarriers, Head of Project Execution				
Turbines	10:20 - 10:35	Turbine O&M				
	Who:	Roscoe Edwards, Siemens Gamesa Renewable Energy, Operations Manager				
	10:35 - 10:40	Turbine Q&A (Slido - pre-submitted and interactive questions)				
	Who:	David Sweenie, Facilitating Change				
	10:40 - 10:55	Cable Installaton Package				
<b>Electrical Balance of</b>	Who:	Colin Smith, DEME Offshore (Tideway), Project Manager				
Plant - Cables	10:55 - 11:00	Cables Q&A (Slido - pre-submitted and interactive questions)				
	Who:	David Sweenie, Facilitating Change				
Networking 11:00 - 11:15 Break		Break				
	11:15 - 11:30	Foundation Package				
Foundations &	Who:	Vincenzo De Rosa, Saipem, Project Procurement Interface Manager				
<b>Electrical Balance of</b>		Claire Sternfalt, Saipem, Project Procurement Coordinator (Renewables)				
Plant - Structures 11:30 - 11						
	Who:	David Sweenie, Facilitating Change				
<b>Developer / Project</b>	11:35 - 11:50	NnG Project Procurement Lookahead				
	Who:	Sioban Butler, NnG Procurement Manager				
Supply Chain -	11:50 - 12:05	Forth & Tay Offshore / Deepwind Cluster Overview				
Scottish Clusters	Who:	Alan Duncan (Scottish Offshore Wind Energy Council)				
Networking	12:05 - 12:30	Close (Final Q&Q, Overview of PM session, NnG Activity Lookahead)				
	Who:	David Sweenie, Facilitating Change				
	12:30 - 13:00	Networking Buffet Lunch				
	Apologies:	Cable Package - Prysmian (Viral travel restrictions)				
		Substation Package - GE Grid Solutions				





# In light of the coronavirus outbreak, should I stop holding the handrail when going up and down stairs in order to avoid the risk of infection?

This question was addressed in our employee FAQs relating to coronavirus.

The answer was: "No. You should continue to hold the handrail. The risk to your personal safety of falling or tripping because you are not holding the handrails is far greater than the likelihood or consequence of picking up an infection from a handrail."

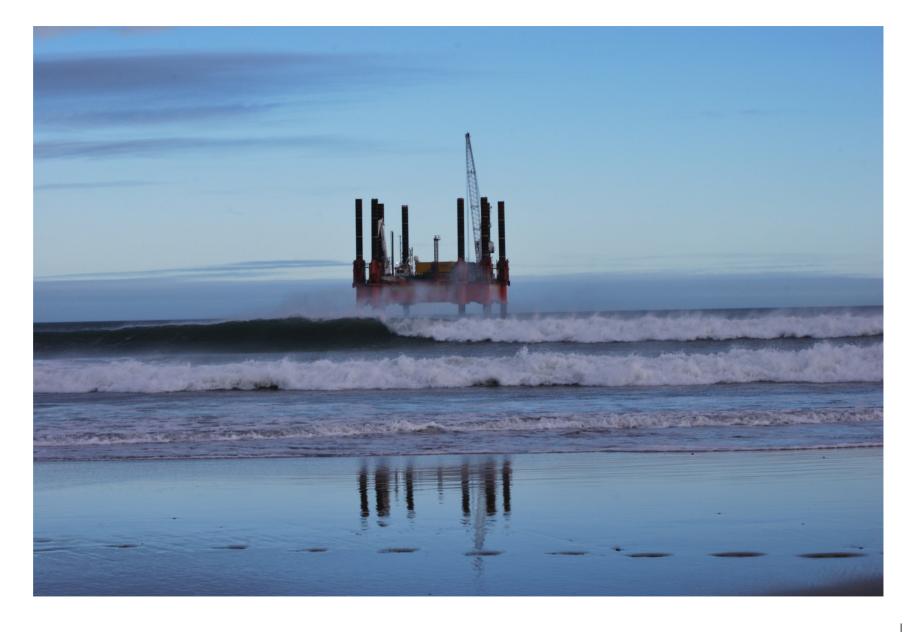


We always **hold the hand rail** on stairs





- ❖My NnG journey
- ❖Industrial context





2008	2009	2010	2011	2009-2012
Site selection	The Crown Estate exclusivity agreed and original offshore Scoping Report submitted	Grid connection signed	Agreement for Lease (AFL) signed	Surveys and Environmental Impact Assessment
Original offshore consent variation granted and Outer House Judicial Review decision	2015  Contract for Difference (CfD) signed and RSPB commenced Judicial Review proceedings	2014 Original offshore consent granted	2013 Onshore planning permission granted	Onshore planning application submitted and original offshore consent application submitted
New offshore Scoping Report submitted, Inner House Judicial Review appeal decision, RSPB	2018  EDF purchase NnG project and new offshore consent granted for 8MW turbines	2019  Financial Close, Manufacture and Onshore construction to start	2020  Manufacture, Onshore works and Offshore construction to start with	Install Foundations, OTMs, Export Cables, Arrays and First Power to Offshore
sought leave to appeal to Supreme Court and new offshore consent submission expected	oww turbines		install of piles	Fower to Offshore
GOFFSHORE		•	Install WTGs, Commercial Operation and COD	



# EDF Renewables, ESB and NnG Overview

Matthias Haag, NnG Project Director

02 – 05 March 2020 - East Lothian, Fife, Dundee, Aberdeen





# EDF group's aim is to be the **leading electricity company** and global **leader for low-carbon energy** production.



### World's number 1 electricity Company

The Group is an established player in Europe, especially France, the United Kingdom, Italy and Belgium.

A marked increase in the use of renewables is bringing change to its energy production operations, which are underpinned by a diversified low-carbon energy mix founded on nuclear power capacity.



### **EDF covers** all electricity Activities

- Number 1 producer of nuclear electricity in the world.
- Number 1 producer of renewables in Europe.
- Number 3 European operator of energy services.



### Leader in low-carbon Production

- Generation.
- Transmission and distribution.
- Supply.
- Energy services.





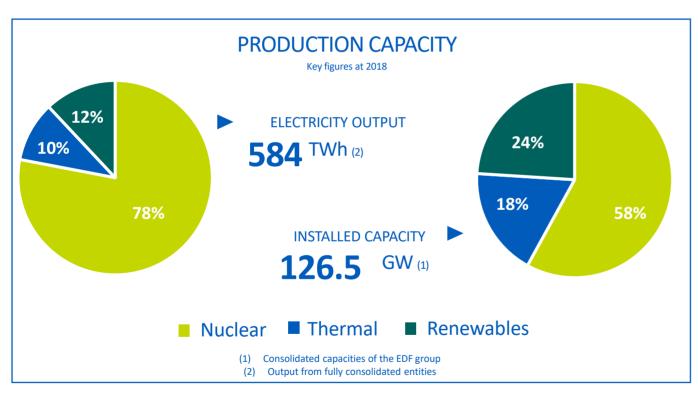
Research & Development

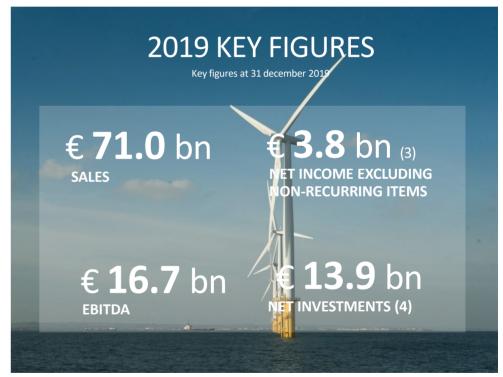
Production & Engineering

Transmission & Distribution

Products & Services

Optimization & Trading









### **EDF GROUP - STRATEGY**



Increase capacity to reach 50 GW by 2030.

Against the backdrop of the energy transition, EDF has defined a strategy called CAP 2030.

The Group wants to be the leader in large low-carbon electricity facilities that are safe and competitive. Achieving this goal will require doubling its global capacity in renewable energy — wind, solar, marine and hydro with a target of up to 50 GW of capacity by 2030.









EDF Renewables is a subsidiary of EDF, helping the Group to achieve its renewable energy goals.

EDF Renewables is a world leader in renewable energy electricity. The company develops, builds and operates clean energy power plants in more than 20 countries both for our own account and for third parties.

EDF Renewables UK operates about 1GW of green energy.





### **ABOUT EDF PROJECTS**



The Blyth Offshore Demonstrator project incorporates a number of new and innovative features as part of its role in testing and proving new and emerging offshore installation methods and technologies.

It uses "float and submerge" technology - a gravity based foundation (GBF) design method.

It has a 66kV rated inter array and export cable to connect the turbines to the grid. At the time of building it had the most powerful turbines in the world at 8.3 MW.



Dorenell is the biggest onshore wind site in Europe for EDF Renewables.

We take a long term approach to the wind farms we develop and we recognise the importance of supporting the communities in which we operate.

Local initiatives in the area will now be able to share in the success of the wind farm and benefit from the community package worth around £12 million over its lifetime.



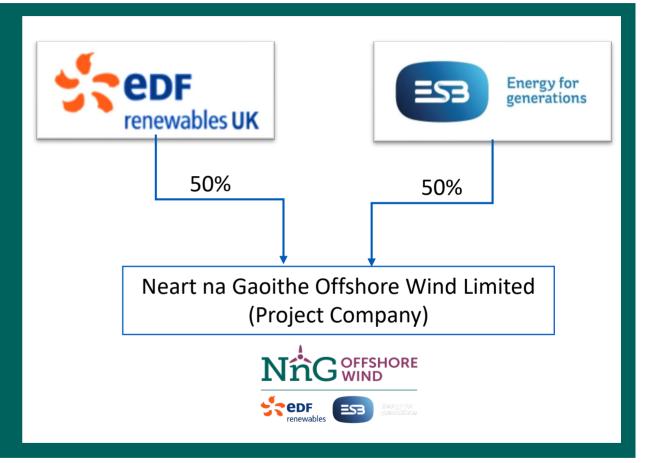


### **NNG Project**

In 2018, the EDF Group, via EDF Renewables in the United Kingdom, a joint subsidiary of EDF Energy and EDF Renewables, bought the Neart na Gaoithe wind farm project. The construction of the NnG offshore wind farm is now underway; the wind farm is expected to be operational by 2023.

In May 2019, EDF Renewables UK opened an extension to its existing office in Edinburgh to accommodate 60 new jobs created on the project.

In November 2019, the EDF Group launched the construction of the Scottish Neart na Gaoithe offshore wind farm project along with its new partners, the Irish electricity company ESB, which is taking a 50% stake in the project.









### REGULATED NETWORKS

ESB NETWORKS NIE NETWORKS

- Owner of the Regulated Republic of Ireland transmission & distribution networks (2018 RAB €7.9bn)
- Owner of the Regulated Northern Ireland transmission & distribution networks (2018 RAB €1.7bn)

### **GENERATION**

#### **GENERATION & TRADING**

- Portfolio 5.6 GW. Irish\* capacity 4.2 GW and 38% market share in 2018. GB capacity 1.4 GW
- Diversified fuel mix. Benefits from capacity and regulatory supports

### **CUSTOMER SOLUTIONS**

ELECTRIC IRELAND

ESB ENERGY

- Customer facing businesses including supply of electricity, gas and smart energy services in Ireland and GB
- 33% Irish\* electricity supply market share in 2018 and 1.25 million customers accounts

### **ESB**

- Established 1927, Leading Irish Utility, 95% Government-owned. Markets Ireland and Great Britain
- Regulated Networks Businesses account for three quarters of EBITDA and assets
- Solid EBITDA €1,175m for 2018 (2017 €1,276m), Assets €13.1bn, Gearing 56%
- Strong liquidity position and credit ratings A- and A3

\* Irish = Republic of Ireland and Northern Ireland



# **ESB's purpose:**

Create a brighter future for our customers by leading the transition to reliable, affordable, low carbon energy

- Meet customers' energy needs through diverse businesses across energy value chain
- Increase renewables to 50% of generation capacity (generating 40% electricity) by 2030
- 50% reduction in carbon intensity by 2030

### **Investment Focus**

- Smart reliable networks
- Low carbon energy
- New business growth potential







### **NNG PROJECT**



**375,000\***Homes
powered

Construction started in 2019 and is expected to last 3 years until commissioning in 2022.

**2022**Turbine installation

The NnG offshore wind farm will be located 15.5 km off the Fife coast and covers an area of approximately 105 km2. The NnG site was chosen because it combines technical, economic and environmental deliverability.



448mw Capacity

**54** Wind turbines



Onshore Construction Starts

Offshore Jacket Installation
Grid Connection
Offshore Cable Installation
Offshore Substation Installation



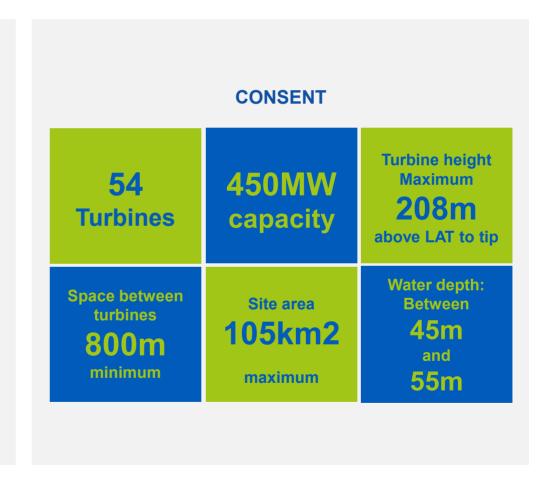


### NNG PROJECT

£2 billion Capital project

### IMPACT ON SCOTTISH ECONOMY

NnG is a £2 billion capital project that will have a major positive impact on the Scottish economy. It is anticipated there will be around £510m spent in Scotland during construction, with around a further £610m spent in Scotland during operations and maintenance. 13,900 person years of employment will be supported by this project over its lifetime; with 8,000 person-years of employment in the construction phase, and a further 5,900 during the operations and maintenance phase. It is estimated that over the lifetime of this project NnG will support the equivalent of 0.6% of the total value of Scottish Onshore GDP in 2016.







### **NNG PROJECT**

### KEY COMPONENTS OF AN OFFSHORE WIND FARM



- Turbine
  - Three bladed turbines will be attached to the seabed using the turbine foundation.
- **Turbine Foundation**

The turbines will be constructed using steel jacket foundations, with cables from each turbines connected via subsea 'inter-array' cables.

Offshore substation(s)

Subsea inter-array cables will be connected to one or two offshore substations.

Offshore Transmission Cables

Two subsea transmission cables will run from the offshore substation(s) to the landfall at Thorntonloch Beach in East Lothian.

Onshore Transmission Cables

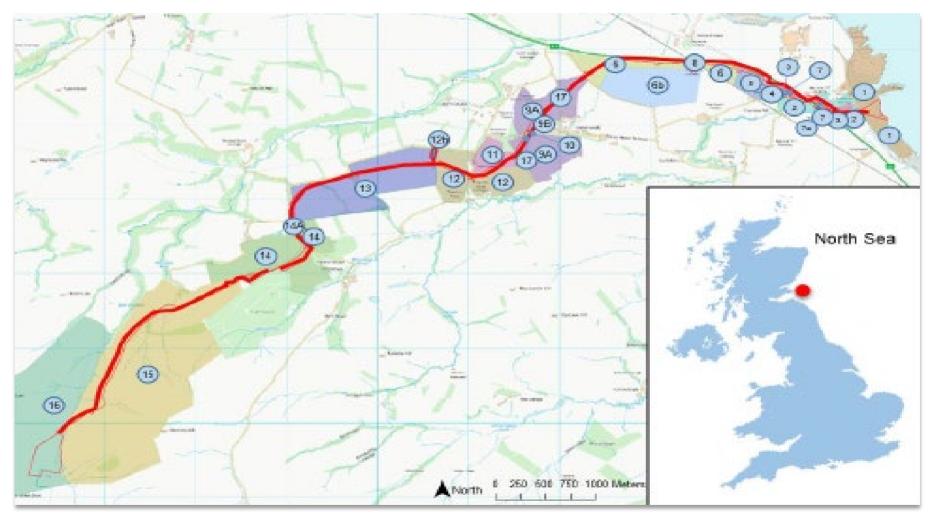
Two buried cables will cross farmland for approximately 12.3km from the landfall location to the grid connection point at Crystal Rig wind farm in the Lammermuir Hills.

- Onshore Substation
  - A new onshore substation will be built to connect the wind farm to the grid.





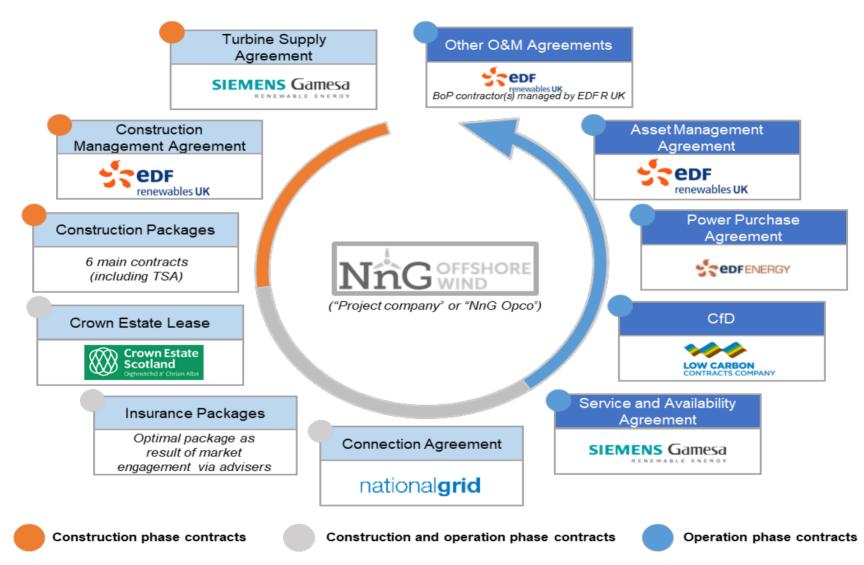
### PROJECT DESCRIPTION – ONSHORE CABLE ROUTE







### **OVERVIEW OF NNG'S MAJOR COUNTERPARTIES**





### MAIN CONTRACTUAL RELATIONSHIPS OF NNG

	Construction packages	Scope	Providers
1	Construction Management Agreement ("CMA")	Construction management services and certain asset management services related to the construction and commissioning of the wind farm	<b>EDF</b> renewables UK
2	Connection Agreement ("CA")	Grid connection agreements with National Grid covering the connection to the existing Crystal Rig substation	national <b>grid</b>
	3 Turbine Supply ("TSA")	Fabrication, supply, pre-assembly, installation and commissioning of 54 SG-8.0-167 WTGs	SIEMENS Gamesa RENEWABLE ENERGY
	EPCI Foundations ("FOU")	Design, fabrication, supply and installation of jacket WTG and OSS foundations Transport and Installation of Substation topsides	SAIPEM
	WTG Installation Vessel ("WIG")	Charter for WTG installation vessel	
	WTG Installation Vessel ("WIG")  High Voltage Stations ("HVS")	Design, fabrication, supply and pre-commissioning of onshore and Offshore Substations, electrical system design and SCADA	HSM offshore
	Export cables ("EXP")	Design, fabrication, supply, installation, termination and pre-commissioning for onshore and offshore export cables	<b>Prysmian</b> Group
	8 Inter-Array Cables ("IAC")	Design, fabrication, supply, installation, termination and pre-commissioning of inter-array cables EPCI of the 66kV platform interconnecting cable	Tideway Others Solvions



Construction will be managed by EDF renewables UK under a construction management agreement.

On top of a construction Management Agreement and of the Connection Agreement, the project will enter into six construction packages and is well advanced in negotiations with a number of experienced contractors.







**Turbines** 

# In depth: Turbines

09:50 - 10:05 Turbine OEM Package

Who: Kel Elliot, Siemens Gamesa Renewable Energy, Senior Project Manager

10:05 - 10:20 Turbine Installation Package

Who: Henrik Mork, Fred. Olsen Windcarriers, Head of Project Execution

10:20 - 10:35 Turbine O&M

Who: Roscoe Edwards, Siemens Gamesa Renewable Energy, Operations Manager

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Who: David Sweenie, Facilitating Change



# NnG Project – Meet the Buyer Event SGRE Procurement & Scope

**March 2020** 







# A leading provider of wind power solutions to customers around the globe

## Top 3 market share<sup>2</sup> position in several main countries



### Offshore<sup>1</sup>

• #1 in global Offshore market (55%)



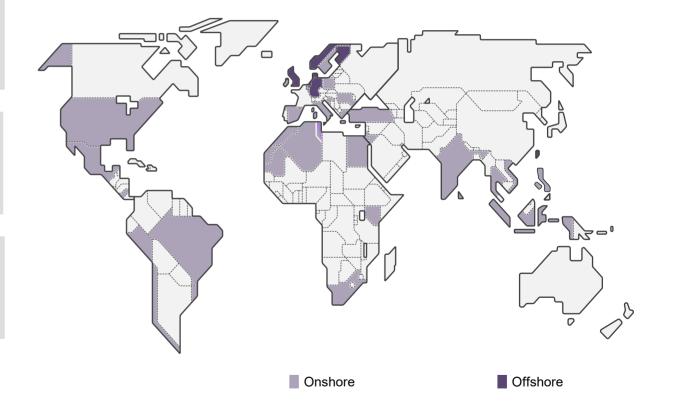
### Onshore<sup>1</sup>

- #3 in global Onshore market (14%)
- #1 in Africa (50%) & LatAm (28%)



### **Service**

- #1 OEM in OF service (>10 GW under service)
- #2 OEM in ON service (>50 GW under service)



1 Source: Wood MacKenzie Wind Turbine OEM Market Shares 2019 2 Based on MW share



# Three business units strongly positioned in the market



**Onshore** 

Over **84 GW <sup>1</sup> installed** since 1980

The **technological partner of choice** for onshore wind power projects.

1 As of September 2019



15 GW <sup>1</sup> installed since 1991

**Most experienced offshore wind company** with the most reliable product portfolio in the market.



Service 60 GW <sup>1</sup> maintained

Commitment beyond the supply of the wind turbine to reach the profitability goals.



# Offshore by the numbers



**€6.5 bn** Backlog¹



**2.1 GW**Order entry<sup>1</sup>



€3.5 bn
Revenue<sup>1</sup>



~15 GW installed²



~6k employees



Strong **global** manufacturing **footprint** 



Excellence in **project execution** 



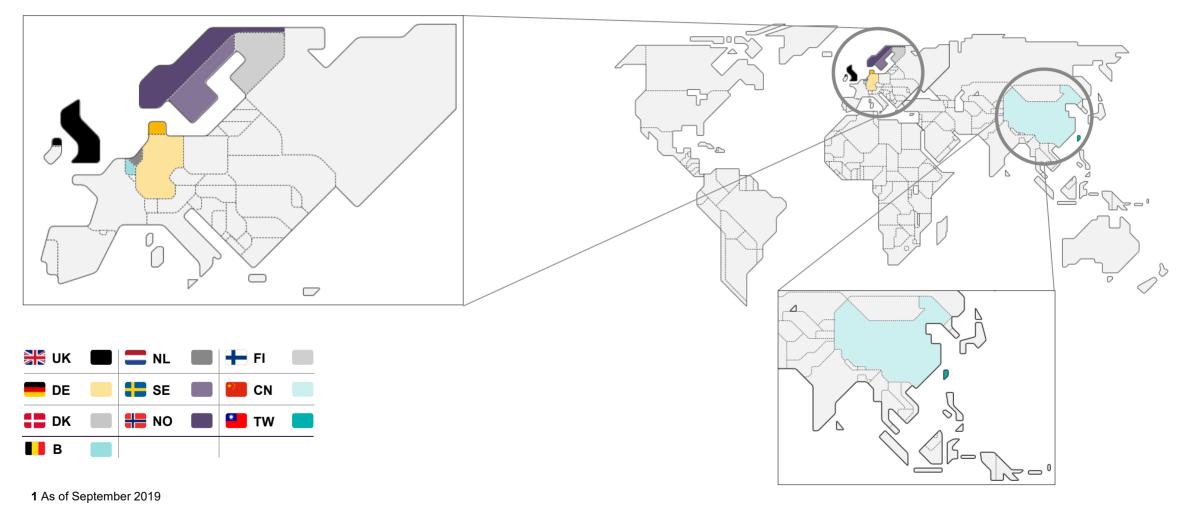
Over 1,000 Direct
Drive offshore turbines installed

**1** FY19

2 As of Jan. 2020



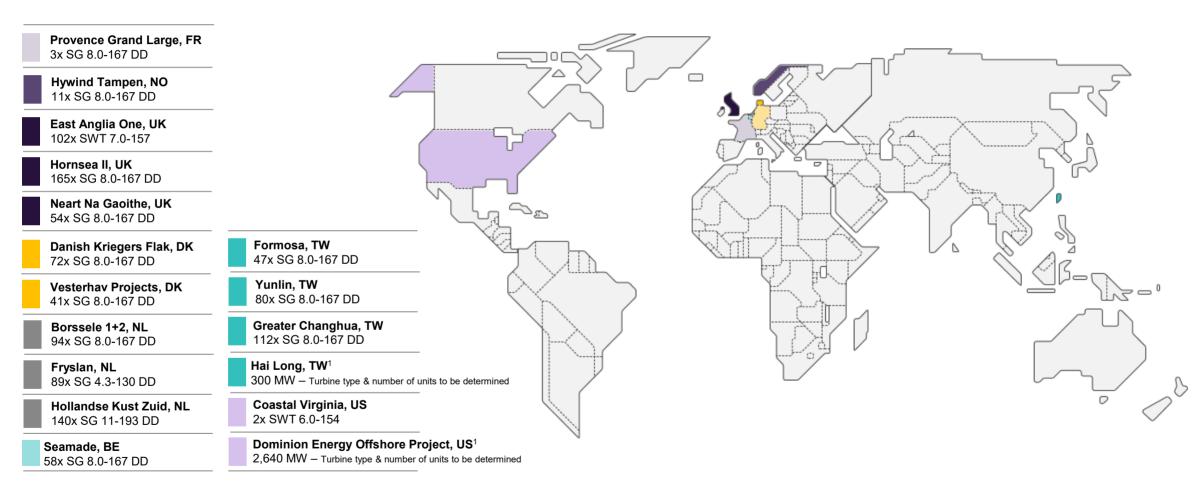
# Market leader within offshore wind power: ~ 15 GW installed¹







### More than 11 GW under installation or to be installed...

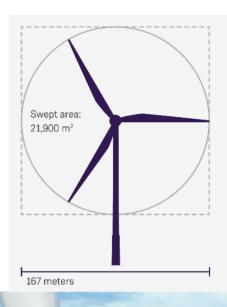


<sup>1</sup> Named as preferred supplier



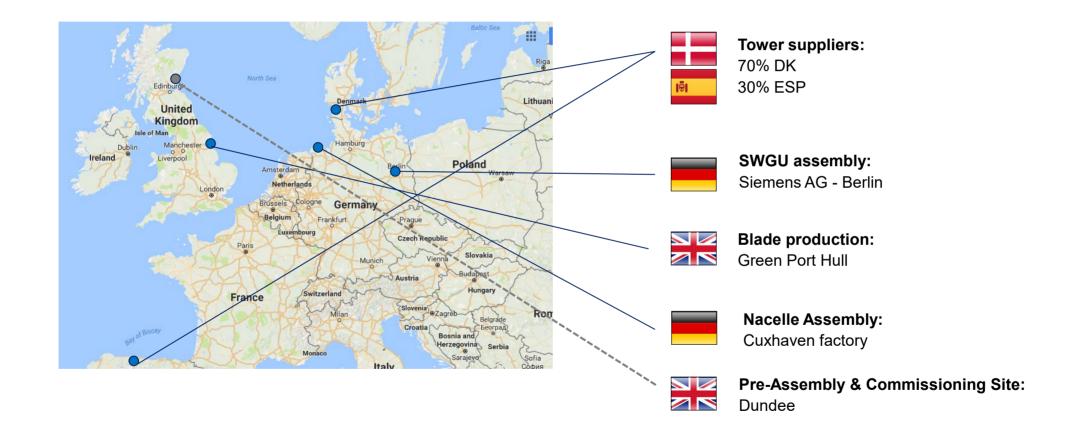
# SGRE Scope of Supply for Neart na Gaoithe

- In September 2019 SGRE signed a supply deal with EDF for supply of turbines to Neart na Gaoithe (NnG)
- We will supply 54 x 8.4MW Wind Turbines
- Responsible for the Pre-Assembly Harbour at Port of Dundee LA already signed
- All Pre-Assembly works including tower preparation, storage and site facilities
- Offshore Installation activities
- Commissioning including Crew Transfer Vessels





# **Supply Chain Footprint**

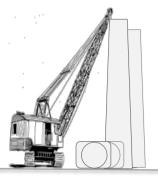




# **WTG Construction Activity Overview**

# Pre-Assembly | Installation | Commissioning & Test | Initial Service







January to July '22

**April to July '22** 

**April to August '22** 

April to September '22

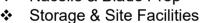
## Pre-Assembly @ Dundee

# Installation

### Commissioning

### Initial Service

- Tower build
- Nacelle & Blade Prep





© Siemens Gamesa Renewable Energy Ltd.

❖ TO → NAC → BL install



- **Turbine Commissioning**
- **Grid Required**
- First Power

240hr Reliability Test

Test

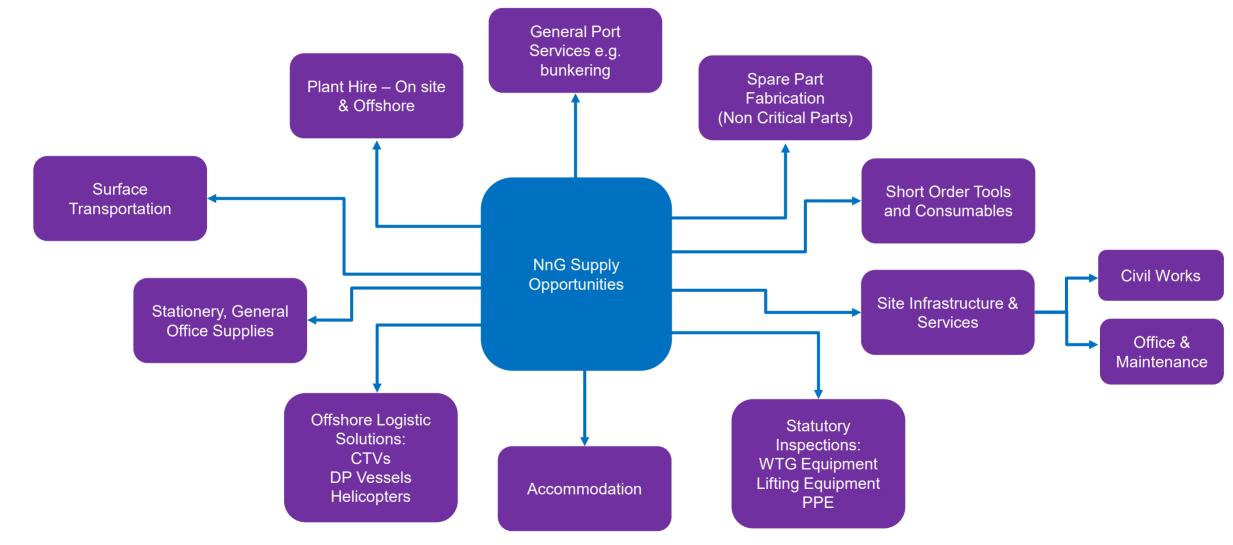
Initial Servicing / bolt tightening



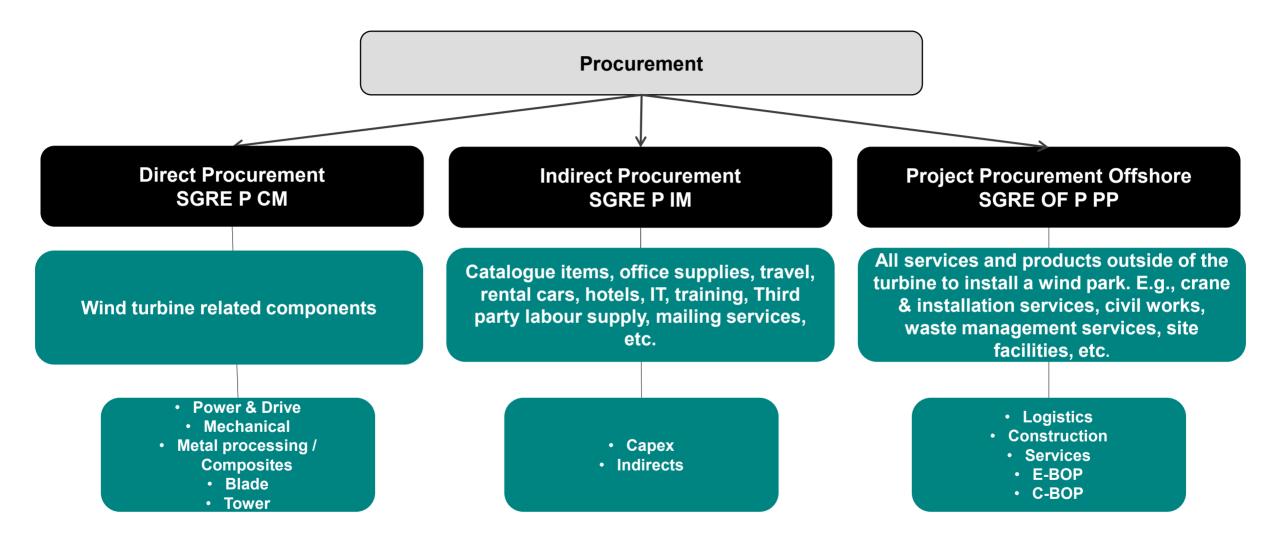




# **Project Tendering Opportunities**

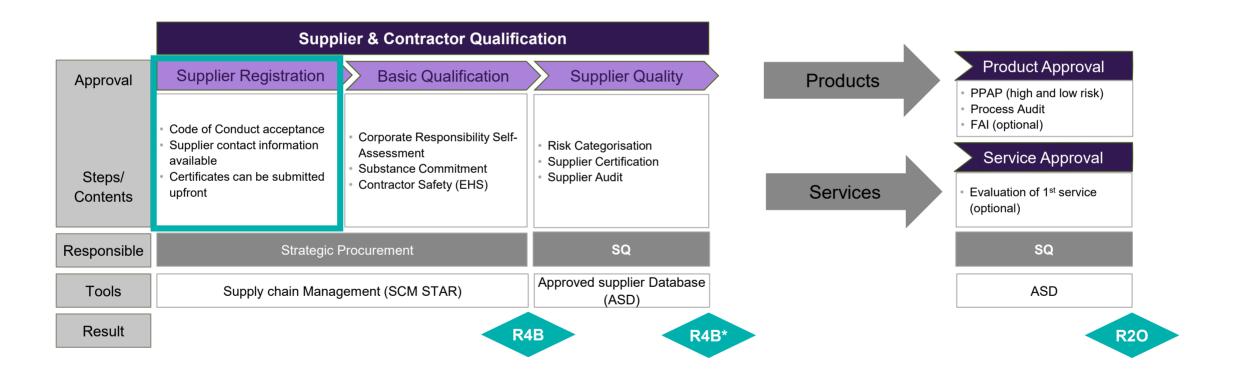


## Overall Procurement Organisation and sub-units within SGRE Offshore





# Supplier Qualification is a joint process between Strategic Procurement & Supplier Quality





# **Supplier Qualification**



Siemens Gamesa are committed to using local suppliers wherever possible & where viable for the Business.

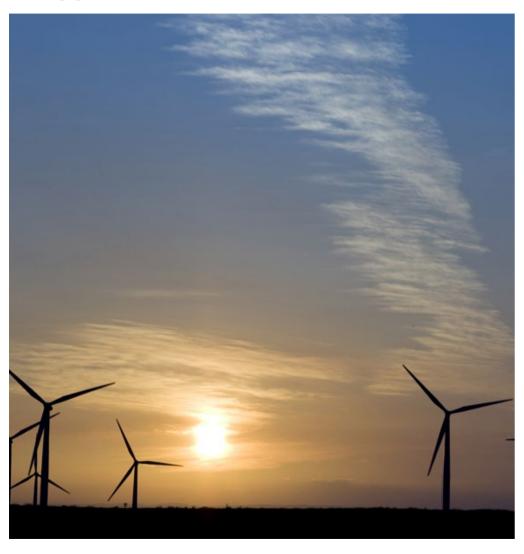
In order to achieve Ready4Business Status the below is a vital pre-requisite for any sourcing relation with suppliers.

Corporate Responsibility (CR) Risk Assessment & Environment, Health and Safety (EHS)

Acceptance of Code of Conduct (CoC)



### **Supplier Qualification**



Basic Qualification is mandatory independent of the criticality of service or component.

- Before signing a Contract
- Before receiving any Purchase Orders.

Suppliers may participate in:

- Request for Information (RfI)
- Request for Quotations (RfQs) before reaching Ready for Business Status (R4B).



### Code of Conduct for Suppliers and Third-Party Intermediaries

# Siemens Gamesa Code of Conduct for Suppliers and Third Party Intermediaries

This Code of Conduct defines the basic requirements placed on Suppliers and Third Party Intermediaries of Siemens Gamesa Renewable Energy (SGRE) Group of Companies concerning their responsibilities towards their stakeholders and the environment.

SGRE reserves the right to reasonably change the requirements of this Code of Conduct in line with any changes to its Compliance Program. In such an event, SGRE considers any revised versions of the Code of Conduct as accepted and without requiring new signatures from the supplier. SGRE is entitled to conduct inspections in order to verify compliance with this Code of Conduct

The supplier and/or third party intermediary declare herewith to:

### Human Rights

 Respect the protection of internationally proclaimed human rights
 Prohibition of Forced Labour and avoid complicity with human rights abuses.

- Refuse to tolerate any unacceptable treatment of individuals such as mental cruelty, sexual harassment or discrimination including gestures, language and physical contact, that is sexual, coercive, threatening, abusive or exploitative.
- Promote equal opportunities and treatment of employees, irrespective of skin color, race, nationality, ethnicity, political affiliation, social background, disabilities, sexual orientation, marital status, religious conviction, gender or age.

### Respect for Cultures & Communities

 Help foster economic and social development of local communities and ensure full respect for the human rights, dignity, aspirations, culture, and natural resource-based livelihoods in areas in which operations are made.

### Labour Practices

 Avoid all forms of forced and compulsory labour and refuse to employ or make anyone work against their will.

### Prohibition of Child Labour

Employ no workers under the age of 15 or, in those countries subject to the developing country exception of the ILO Convention 138, employ no workers under the age of 14.

### Occupational Health & Safety

- · Act in accordance with the applicable statutory and international standards regarding occupational health and safety and provide safe working conditions.
- Establish a reasonable occupational health & safety management.
- Provide training to ensure employees are educated in health & safety issues and have the right to refuse unsafe work.

The Code of Conduct is based, among others, on the United Nations Global Compact and the Principles of the International Labour Organisation.

### Procurement ensures that all suppliers commit to the **Code of Conduct by:**

- Corporate responsibility declaration
- Acknowledgment of Conditions of Purchase or contractual agreements

### Compliance to Code of Conduct controlled by\*:

- Corporate responsibility self assessment
- SQ audits with integrated Code of Conduct module
- External sustainability audit

SGRE Code of Conduct for Suppliers and Third-Party Intermediaries



<sup>\*</sup>triggered by different criteria

### Some of our initial requirements

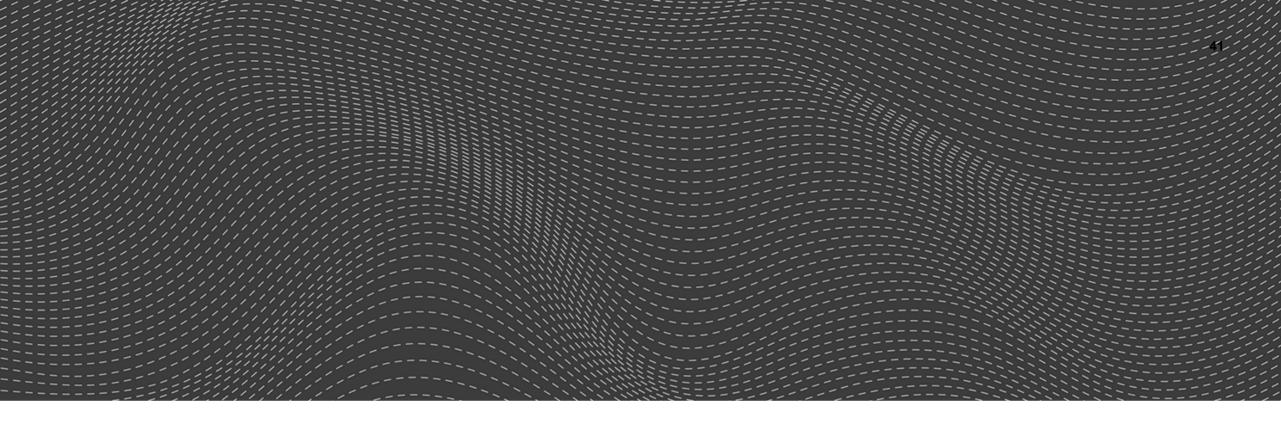




# **Contact with SGRE's NnG Project Team**



- Speak to one of our team at the event today
- Leave Business Cards
- SGRE will contact you directly as required

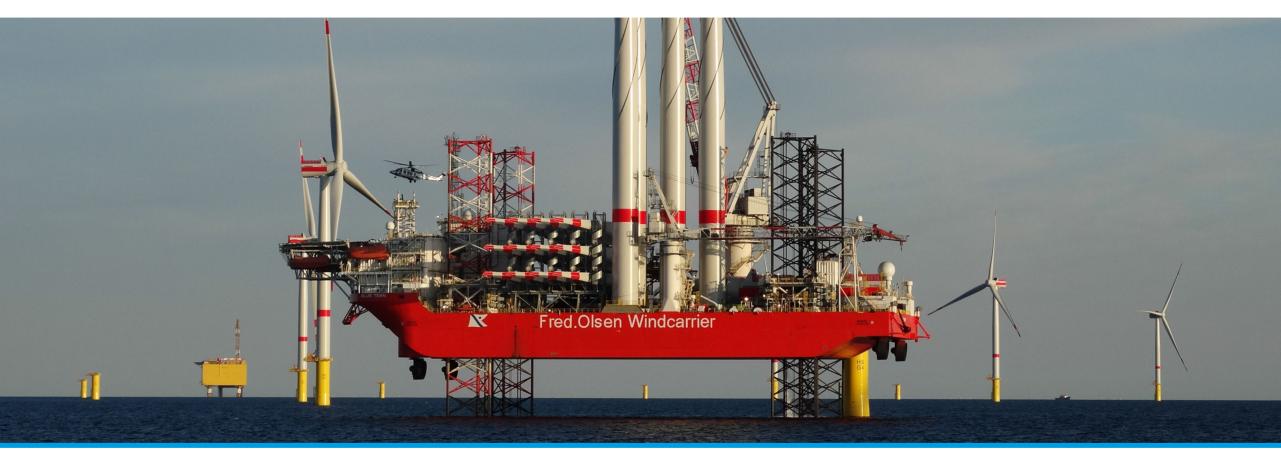


# Thank you!

Kel Elliott – SGRE Senior Project Manager (NnG Project)
Gordon Taylor – Construction Project Manager (NnG Project)
Emma Kinsman – Project Procurement Manager (NnG Project)







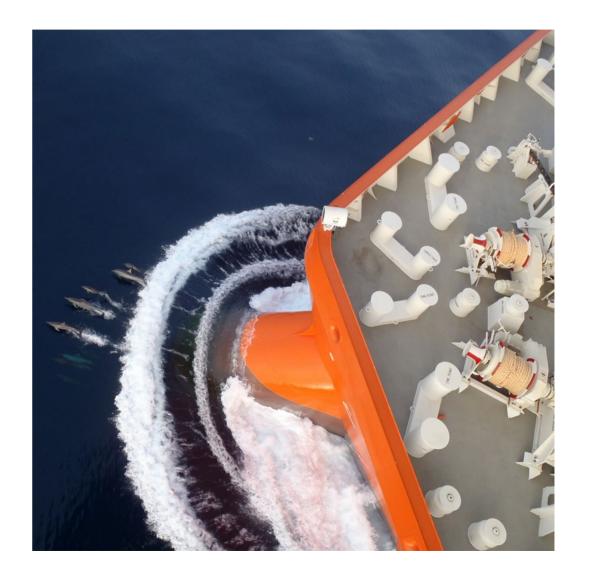
NnG - Meet the Buyer Event

March 2<sup>nd</sup>-5<sup>th</sup> 2020

Henrik Mork, Head of Project Execution

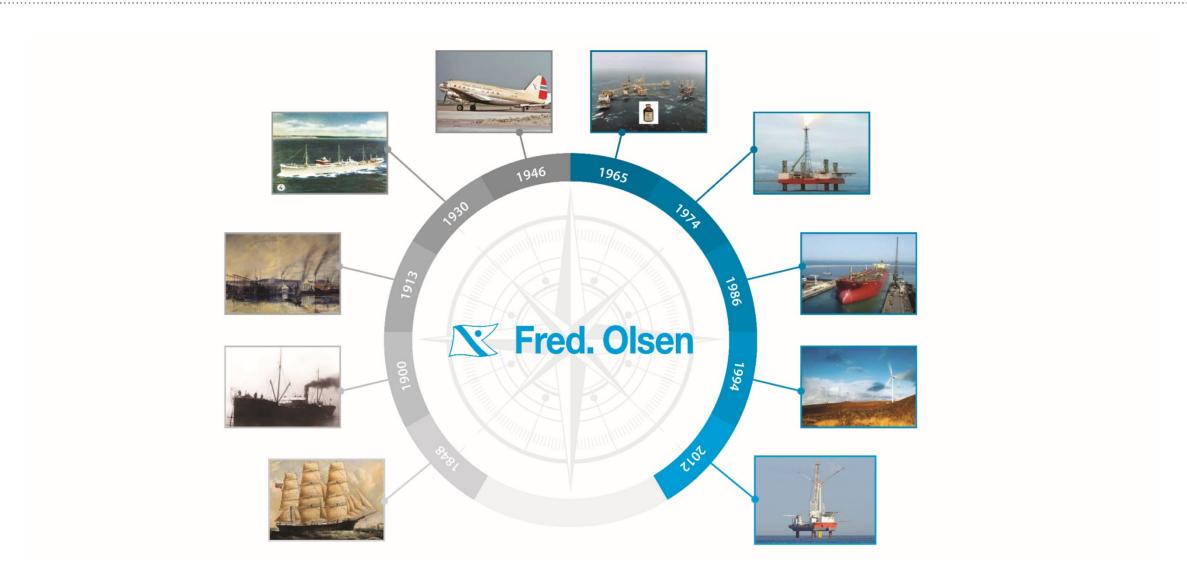
Gry Arnet, Procurement Manager

- Company overview
- Track record
- Scope of work
- Services required
- Procurement process

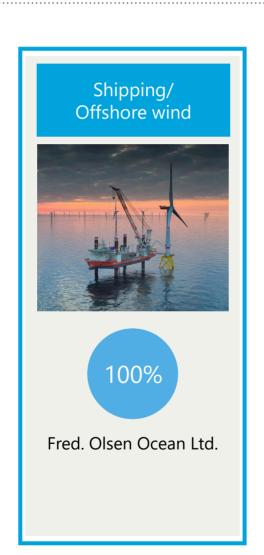


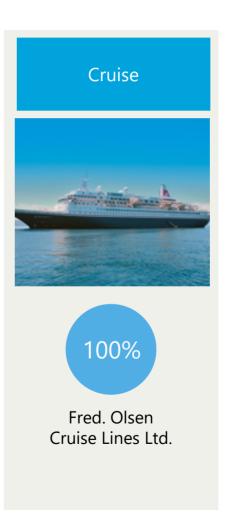
# Fred. Olsen related companies pioneering





# Renewable energy 100% Fred. Olsen Renewables AS









Privately owned





### Renewable Energy Consultancy and Service Provider

- Independent renewable energy advice
- Experience across the project lifecycle
- 360+ renewable energy specialists
- Global expertise, delivered by local teams





Communications and Service Provider

- Industry leading software management solutions for land and marine projects
- Innovative communications system for complex projects offshore
- Health, Safety and marine consultancy services





**Wind Lidar System** 

- Est. 2007, the original wind Lidar company, providing laser-based sensors
- 1000+ deployments globally, 10m+ operational hours
- Cost effective alternative to traditional Met. Masts





Pioneering Wave Energy Generator

- World's most reliable wave energy conversion technology
- Power exported to offshore client systems
- Deployed by US Navy off Hawaii

# Shipping/Offshore Wind



### **Fred. Olsen Windcarrier**



# Jack-up installation

- 3 custom-built jack-up installation vessels
- Turbine and foundation installation
- Operation and maintenance



### **W** Universal Foundation



# Wind turbine foundation

- The Carbon Trust's championed design
- 10+ MW WTGs
- Quick and silent installation
- No grouting







# **Technical manpower**

- ~1200 employees
- 10 business units globally
- Installation, Service & Blades both on-and offshore
- Offer HV through joint venture with Delpro Wind



# LOGISTICS



# Offshore logistics

- One-stop-shop logistic solutions
- Integrated services
- Wind power engineering
- Project execution

50% owned



### Lifting Offshore Wind

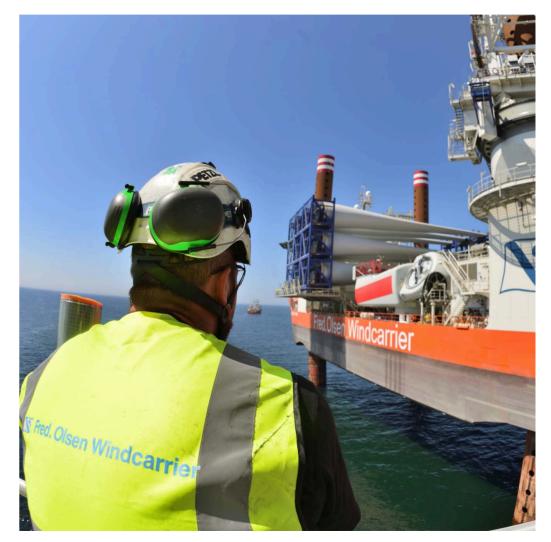
Providing flexible services for the transport, installation and maintenance of offshore wind farms.

Fred. Olsen Windcarrier has installed some of the most challenging, ground breaking projects, almost 600 turbines and over 3 500 MW since taking delivery of our jack-up vessels Brave Tern and Bold Tern in 2012. Recent addition to the fleet in 2019 is Blue Tern (previously Seafox 5).

In 2017 we launched our complete range of O&M services, in partnership with our highly experienced related companies. In April 2019, the O&M vessel LiftBoat Jill was added to the fleet.

We offer a tailored solution to suit clients' needs, providing specific services or a fully integrated approach.

Offices in Oslo – Norway, Fredericia – Denmark, Hamburg - Germany and Taipei - Taiwan.



594 turbines and 3 500 MW installed to date

USA

2016

2017

Adwen

2017



### GERMANY Riffgat Siemens 2013 30 x SWT 3.6 MW

### GERMANY Bard 1 BARD 2013 14 x BARD 5.0 MW

### BELGIUM Belwind Alstom 2013 1 x Haliade 6.0 MW

### Dogger Bank Forewind 2014 2 x UF Foundations

### **GERMANY** Global Tech 1 Areva 2014 75 x Areva 5.0 MW

### **GERMANY** Butendiek Siemens 2015 80 x SWT 3.6 MW









# Future installation project pipeline





Yunlin Offshore Wind Farm, Taiwan

Client: Siemens Gamesa

Siemens Gamesa 8MW wind turbines at the 640MW wind farm.

Construction is expected to start during the summer 2020.



Neart na Gaoithe Project, Scotland

Client: EDF

Transport and installation of 54 Siemens Gamesa SG 8.0-167 DD wind turbines.

Construction will start spring 2022



Moray East Wind Project, Scotland

Client: MHI Vestas Offshore

Transport and installation of 100 V164-9.5MW wind turbines.

Construction will start in the beginning of 2021.

We are committed to being recognized as a leading organisation for HSEQ management

### HSE:

- Zero incidents mindset
- Risk management is an integrated part of all our activities
- Detailed HSE requirements have been defined to ensure safety at all levels
- Open reporting culture, focusing on learning

### Quality:

- Our 'Improve Quality (iQ)' programme aspiration:
   "Always right the first time and on time –
   with enthusiastically satisfied customers"
- ISO 9001, ISO 14001, OHSAS 18001 and Achilles certified



# Scope of work

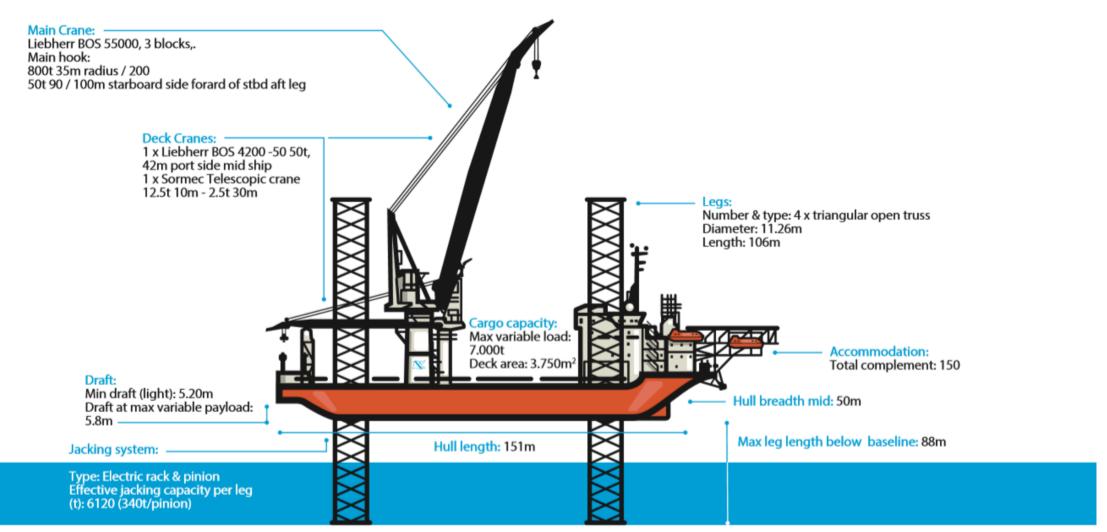


- Sea Transportation, including seafastening, Loading and Lifting of 54 WTG's (SG 8.0-167 DD)
  - 4 WTG's per roundtrip -> 14 roundtrips
  - Tower, Nacelle, Blades
  - Mobilisation/Installation/Transit/Jacking
- Marshalling harbour, Port of Dundee
- Timing, March August 2022
- Vessel, Blue Tern



# Blue Tern specification





- Project mobilisation/demobilisation
  - Yard services, potential steel work supplies for grillage and seafastening
  - Electro
  - Safety equipment
  - Engineering services
- Vessel supplies
  - Fuel
  - Technical maintenance
  - Provisions
  - General stores
- Logistics
  - Crew change
  - Warehousing
  - Agency services





# **Supplier Categorization**

- A. High criticality, single Source
- B. High criticality, <u>not</u> single source
- C. Low criticality

# **Supplier Selection**

- Criteria
  - Technical/Financial/HSEQ
- Questionnaire
- Audit
- Approval

### **Procurement Process**



### **Approval criteria**

- Supplier holds a valid ISO 9001 (for Category A and B suppliers)
- Supplier has been audited (for Category A and B suppliers)
- Supplier can document to have been audited by others, found acceptable to Fred. Olsen.
- Temporary approval can be granted based on positive references from other companies that are well known to Fred. Olsen.
- An additional part of the evaluation is:
  - > Health and environmental awareness, e.g. OHSAS 18001 or other relevant standard
  - Ability to demonstrate use of waste reduction methods, such as purchasing in bulk to reduce packaging volumes, encouraging recycling initiatives and using non-disposable equipment
  - Suppliers ability to deliver products that minimally impact the environment, made of recycled, renewable material, energy-efficient.

### **Revoking of Approval**

- Loss of quality certificate or other approvals.
- Unacceptable HSEQ performance
- Poor performance.

Successful projects built on valuable partnerships

Fred. Olsen is committed to using local content in the areas we operate

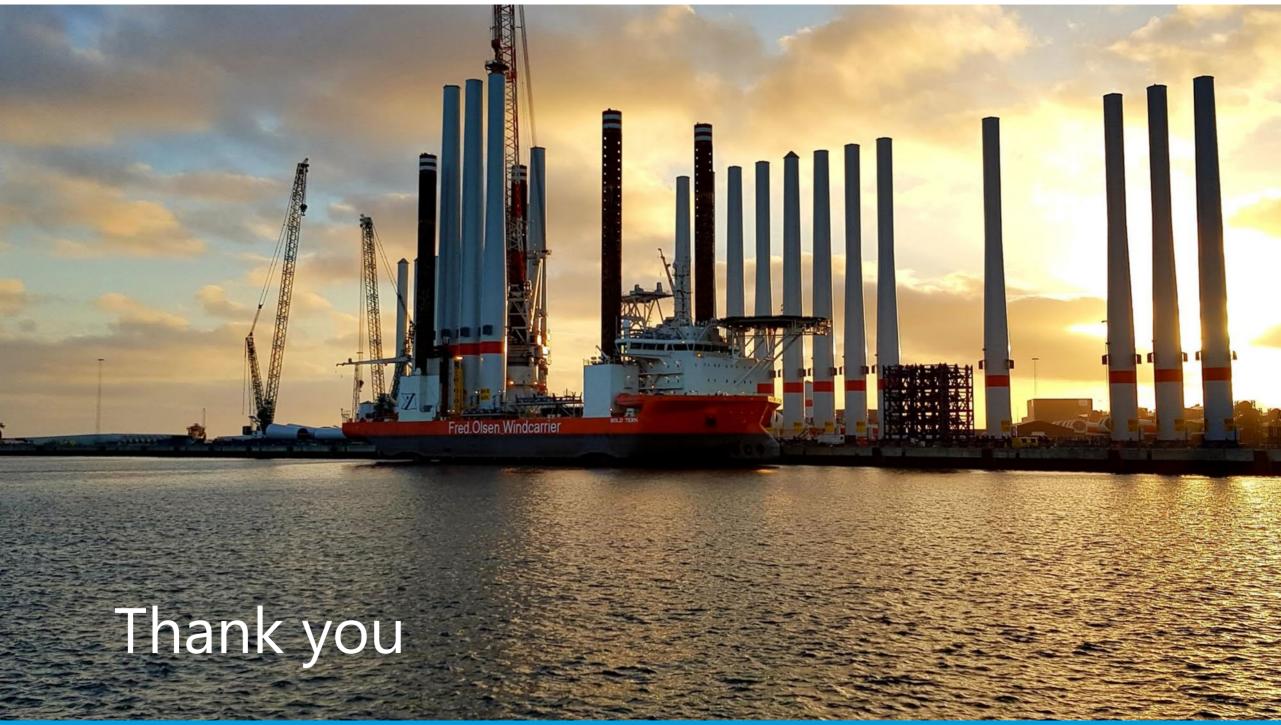
We are considered a transparent, fair and ethical partner in all aspects of our work, with vendors, customers and competitors, and expect nothing less of our vendors.

We are always interested in hearing from potential new vendors.

Please email <u>Vendors@fredolsen.no</u> to be considered

Visit our webpage:

https://windcarrier.com/vendors





# Neart na Gaoithe - Supply Chain Event **Service Operations**

Roscoe Edwards Operations Manager







### **Overview**

- Service scope of supply
- Supplier qualification
- Procurement opportunities



### **SGRE Service and Maintenance Scope for NNG**

- Turbine annual Service and Maintenance
- Crane and lifts
- Turbine Mounted Safety Equipment (TMSE)
- Pressure vessel inspections
- Crew Transfer Vessels (CTV's)
- High Voltage Service and Maintenance
- Tepee mounted cranes and fall arrest
- Clearing of marine growth & guano from boat landings
- Blade inspection and maintenance





### **Supplier Qualification**



Siemens Gamesa are committed to using local suppliers wherever possible. It makes sense commercially and technically.

These are the criteria which would qualify a supplier as "ready for business" (R4B)

Approach to Health, Safety and the Environment

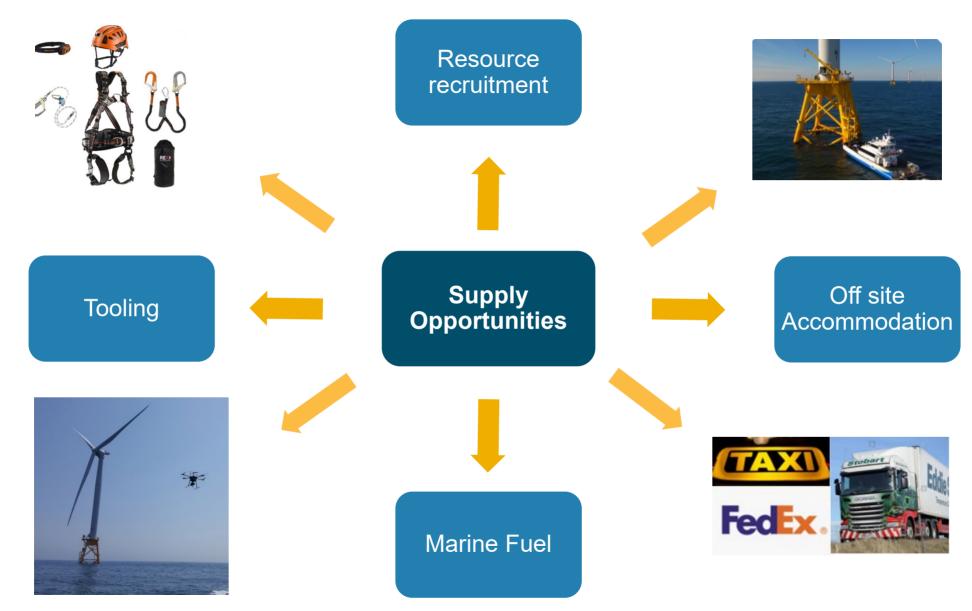
Reliable Delivery

Competence 8 Quality

Value for money

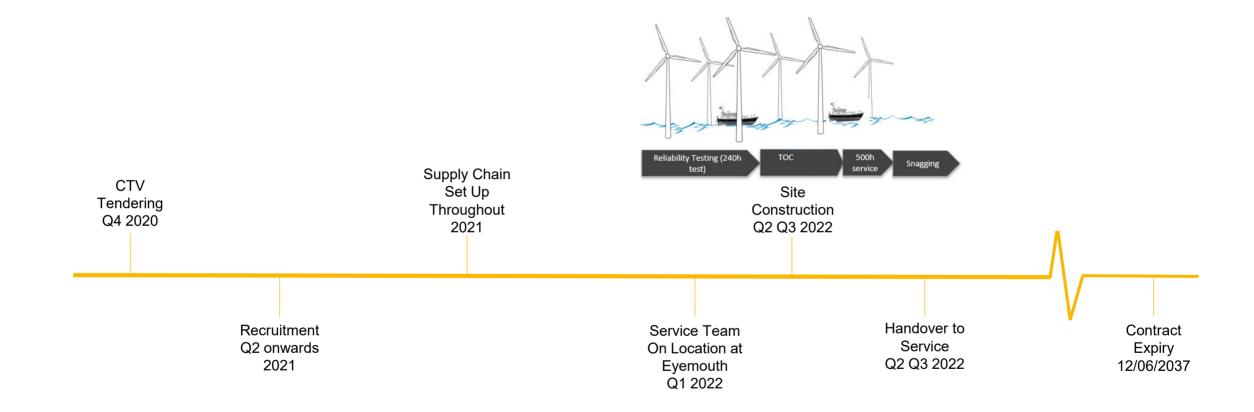


# **Procurement opportunities**





# **Planning for NNG**





# **Some SGRE Procurement opportunities**

### **List of Products/services of interest**

- 1) glass fiber
- 2) epoxy resins
- 3) carbon fiber
- 4) small steel parts
- 5) composite sub-components; e.g. root segments, spares



### **List of Products/services of interest - Others**

- 6) Fabricators
- 7) Crew Transfer Vessels
- 8) Logistic providers
- 9) TSME consumables
- 10) Long Term/Serviced Accommodation



### **List of Products/services of interest - Others**

- 11) Emergency suppliers of tooling
- 12) PPE
- 13) Couriers and pallet services
- 14) Signage
- 15) Third party labour providers and labour for Offshore service activities i.e. Oil Exchange providers, HV techs, statutory inspectors



# **How to Engage**



Contact Daniel Douglas SGRE Head of Procurement

**Daniel Douglas Service Procurement SGRE** 

**Email:** 

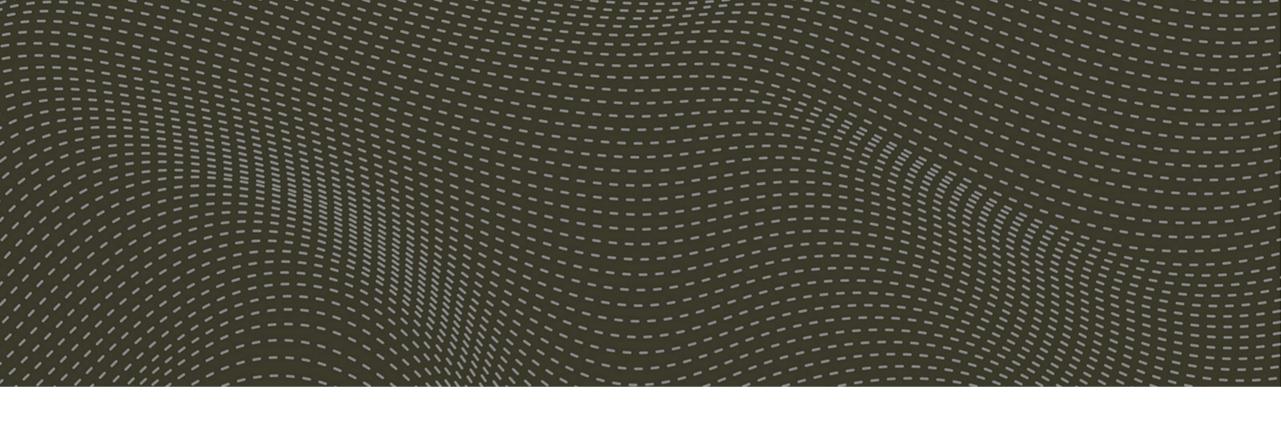
daniel.douglas@siemensgamesa.com

Mobile:

07808 826656

- Speak with one of our team at the event today
- Leave a business card





Roscoe Edwards – SGRE Operations Manager

Julian Soczynski – SGRE Project Engineer Service Operations Readiness





**Turbines** 

# Questions....

09:50 - 10:05 Turbine OEM Package

Who: Kel Elliot, Siemens Gamesa Renewable Energy, Senior Project Manager

10:05 - 10:20 Turbine Installation Package

Who: Henrik Mork, Fred. Olsen Windcarriers, Head of Project Execution

10:20 - 10:35 Turbine O&M

Who: Roscoe Edwards, Siemens Gamesa Renewable Energy, Operations Manager

10:35 - 10:40 Turbine Q&A (Slido - pre-submitted and interactive questions)

Who: David Sweenie, Facilitating Change



# In depth: Electrical cables

10:40 - 10:55 Cable Installaton Package

Electrical Balance of Who:

Plant - Cables

Who: Colin Smith, DEME Offshore (Tideway), Project Manager

10:55 - 11:00 Cables Q&A (Slido - pre-submitted and interactive questions)

Who: David Sweenie, Facilitating Change





# Supply Chain Event

No offshare

Mind Project

Scotland March 2020

LIVING STONE

#### WHO ARE WE?





DEME Offshore provides the most comprehensive and innovative solutions in the renewables industry. We offer flexible solutions for foundation, cable, turbine and substation installation and maintenance activities. By operating a high-tech fleet of installation, cable laying and multipurpose vessels we are able to help customers achieving the most demanding offshore energy projects

## WHO ARE WE?

# **Deme Group – Four Main Activities**



**Dredging and land reclamation** 



Offshore energy solutions

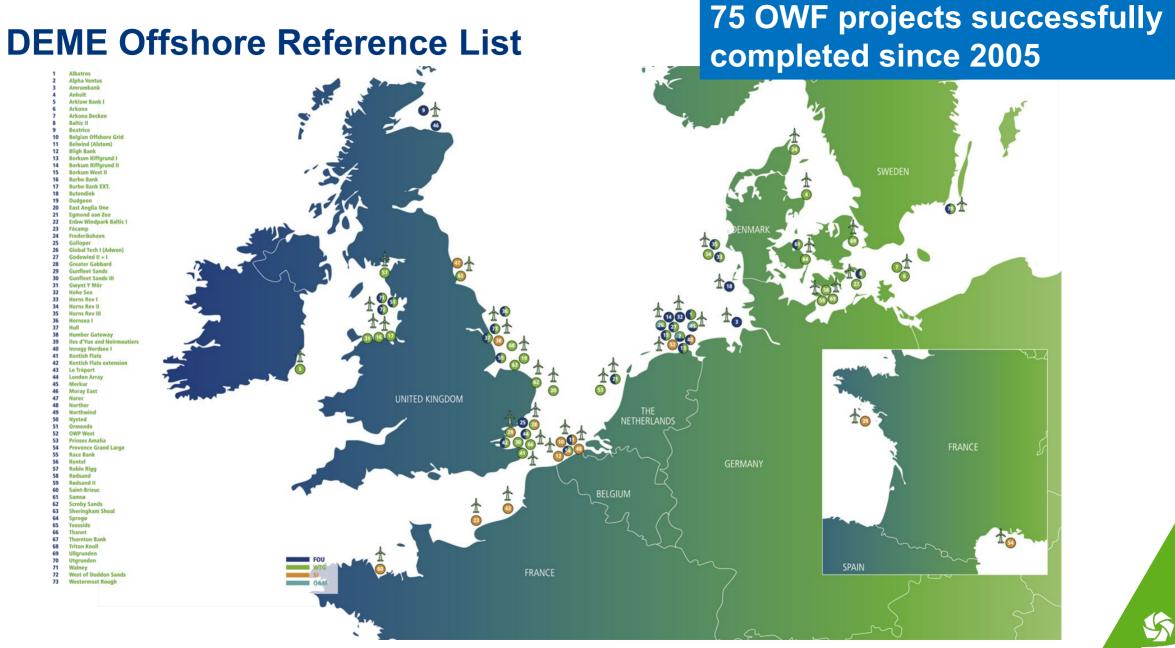


Infra marine solutions



**Environmental solutions** 





# For Neart Na Goithe the focus is on Cabling Activities











## **Scope of Work**

#### ▶ Engineering:

This is being done internally

#### ▶ Procurement:

 Cable – 105 km of cable is being procured and fabricated by JDR Cables (Hartlepool, UK)

 CPS – 120 CPS's are being procured and fabricated by First Subsea (Lancaster, UK – Parent Company in Aberdeen)



## **Scope of Work**

#### ▶ Installation

- > Vessels:
  - Cable Lay & Burial CLV Living Stone
  - Walk-to-Work
  - CTV's
  - PLGR/Survey?
- Offshore Survey
- > Pre Lay Grapnel Run
- > Pull-Ins
- > Termination & Testing



## **Supply/Subcontract Opportunities**

#### **►** Supply:

- Accommodation
- > Port facilities
- > Offshore Personnel
- Offshore Surveyors
- Marketing/Production
- > Safety equipment & PPE
- Training
- Scaffolding
- Metocean data

- > Local Procurement
- > CTV's
- Survey Vessels



## **Supply/Subcontract Opportunities**

#### **▶** Subcontract:

- Offshore Survey
- > Pre Lay Grapnel Run
- > Pull-Ins
- > Termination & Testing
- > Offshore coordination



#### MISSION STATEMENT

Ensure goods and services are procured against the appropriate price and desired quality, delivered at the right spot, on time and compliant with DEME's QHSES policy.

Act as DEME OFFSHORE's internal consultant to answer all questions related to ports, transport means, logistics, procurement of goods and services.

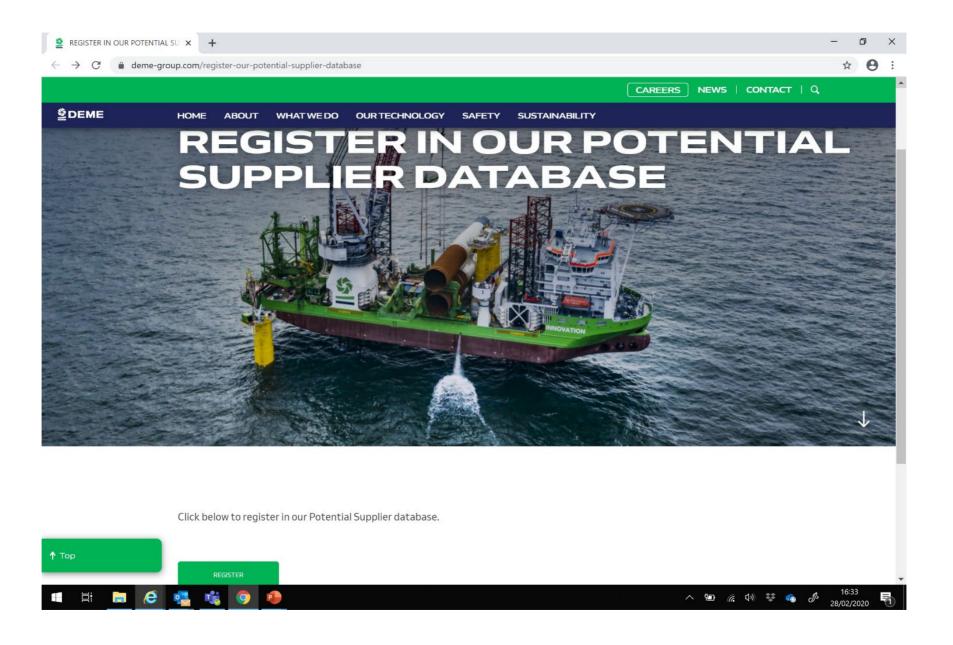




# www.demeoffshoresupplychain.com

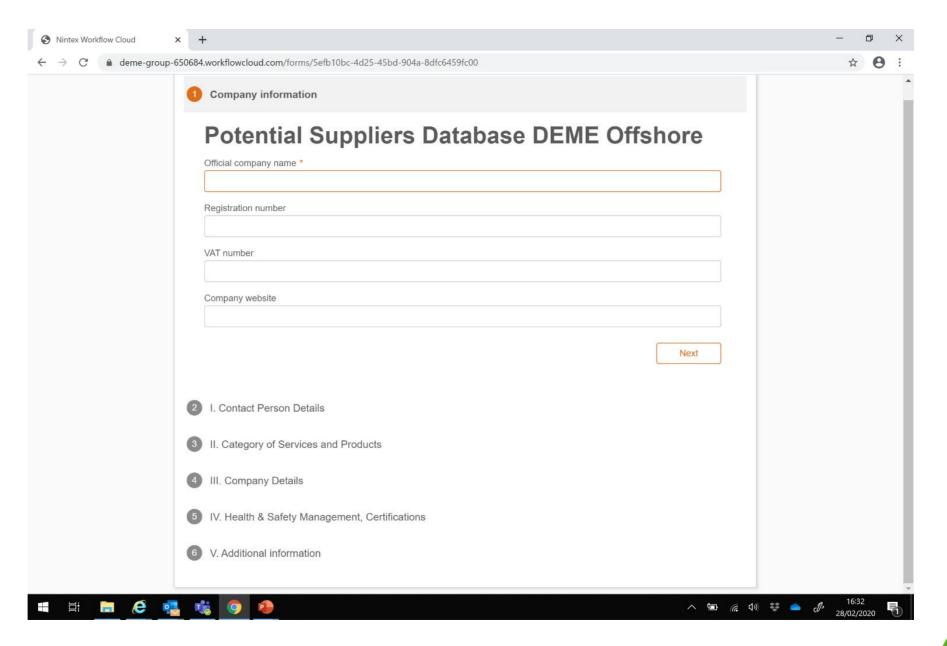














# Questions







# Questions....

10:40 - 10:55 Cable Installaton Package

Electrical Balance of Who:

Plant - Cables

Who: Colin Smith, DEME Offshore (Tideway), Project Manager

10:55 - 11:00 Cables Q&A (Slido - pre-submitted and interactive questions)

Who: David Sweenie, Facilitating Change





# A wee break....?

\* Please speak to Tori during the break to organise 1-2-1 meetings with (i) NnG Procurement (ii) NnG O&M Team





# In depth: Foundations

Foundations & **Electrical Balance of** 

Plant - Structures

11:15 - 11:30 **Foundation Package** 

Who:

Vincenzo De Rosa, Saipem, Project Procurement Interface Manager

Claire Sternfalt, Saipem, Project Procurement Coordinator (Renewables)

11:30 - 11:35

Structures Q&A (Slido - pre-submitted and interactive questions)

Who:

David Sweenie, Facilitating Change







# NnG Offshore Wind Farm Project

"Meet the Buyer" Events



Scotland, 02<sup>nd</sup> - 05<sup>th</sup> March 2020

## **KEY FIGURES - Saipem Group**

Saipem is a leading company in engineering, drilling and construction of major projects in the energy and infrastructure sectors. It is organized in five business divisions (Offshore E&C, Onshore E&C, Offshore Drilling, Onshore Drilling and XSight, dedicated to conceptual design). Saipem is a global solution provider with distinctive skills and competences and high-tech assets, which it uses to identify solutions aimed at satisfying customer requirements. Listed on the Milan Stock Exchange, it is present in over 60 countries worldwide and has 32 thousand employees of 120 different nationalities.

€8.5bln

**E&C OFFSHORE** 

Includes *Green Business Line*for offshore
renewables

E&C ONSHORE

**REVENUES 2018** 

**€8.8**blr

**NEW CONTRACTS 2018** 

€485mln

**INVESTMENTS 2018** 

32,000

**EMPLOYEES** 

72

COUNTRIES IN WHICH WE OPERATE

9

**FABRICATION YARDS** 

DRILLING OFFSHORE

DRILLING ONSHORE





## Saipem's presence in the world



#### **E&C OFFSHORE**

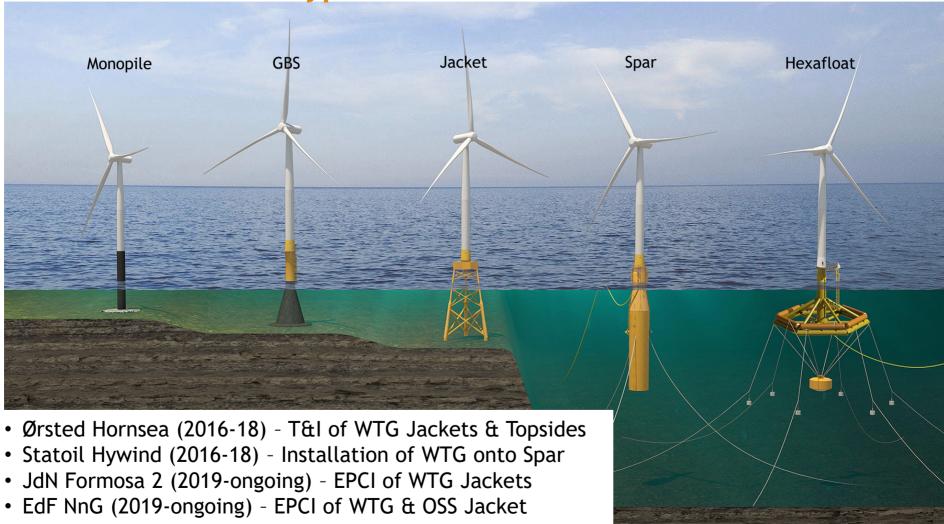
#### **Geographical Areas**

- Europe & Africa HQ in Paris
- Americas HQ in Houston
- Middle East & Eurasia HQ in Baku
- Asia Pacific HQ in Kuala Lumpur



## Saipem's Offshore Renewables Track Record

WTG foundation types







### NnG - Scope of Work

Employer: - NnG Offshore Wind Limited (Employer)

Project: - NnG Offshore Wind Farm

- 450MW development located off Fife

Scope: - Engineer - Procure - Construct - Install

the following:

• 54 No. three legged WTG foundation jackets. (8 no. to be fabricated, fitted, tested and loaded-out at BiFab Methil)

- 2 No. three legged OSS foundation jackets
- 162 No. Piles (WTG foundation)
- 6 no. Piles (OSSP foundation)
- T&I of 2 No. OSS topsides



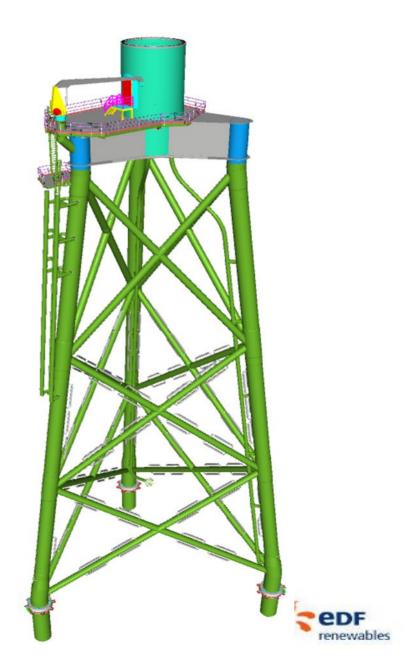




### NnG Packages to be Tendered as of 28-Feb-2020

- For 2020 & 2021 installation campaigns (Sacrificial Casings, Piles, Jackets):
  - Logistics Support Base
  - Marine Agency Services
  - Platform Supply Vessel
  - Jacket Grouting
  - Assists tugs for lifting Jackets offshore
- Cargo Barges, Tow Tugs & Assist Tugs for transport of 8 no. Jackets from Methil
- Davit Cranes for OSS Jackets
- Structural Bolts Studs & Nuts
- Pile/Casing centralization system
- Fire Fighting Equipment
- Neoprene diaphragms for Pile grouting

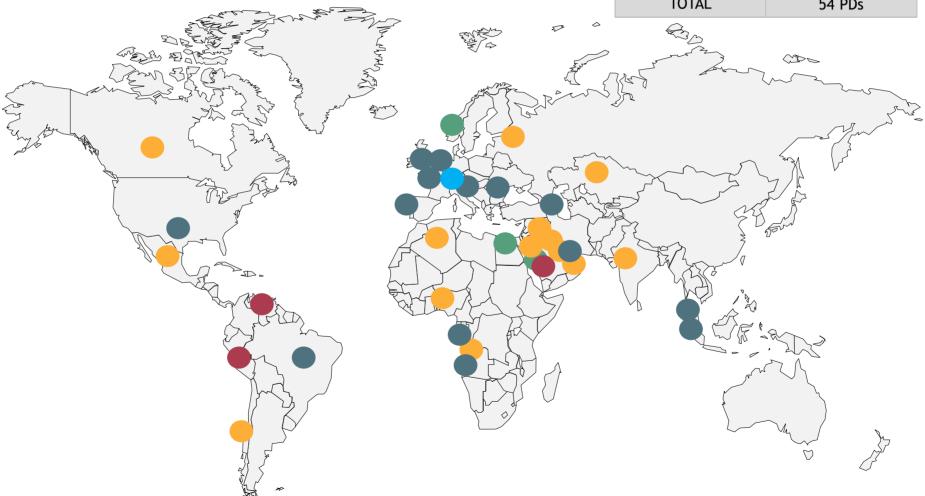




## **SUPPLY CHAIN**

## SAIPEM WORLDWIDE BY DIVISION

OFFSHORE E&C	21 PDs
ONSHORE E&C	20 PDs
OFFSHORE DRILLING	4 PDs
ONSHORE DRILLING	4 PDs
XSIGHT	1 PD
SERVICE CENTER	4 PDs
TOTAL	54 PDs





## **E&C Offshore Supply Chain Process**

#### **Vendor Management: Processes**

#### **Vendor Qualification**

- Vendor Self Presentation
- Strategic Sourcing Market Intelligence
- Internal Vendor Qualification request

- Level of criticality
- Vendor type
- Corporate/local
- Limited / unlimited in amount
- Financial & Reputational evaluation
- Technical evaluation
- Document evaluation
- Social Responsibility
- Visit ,Audit & HSE evaluation

critical

Request of **Oualification** (PWS)



First approach to Saipem and collection of interest to set up business

Qualification **Assignment** 



Identification of the right qualification process to be adopted **Oualification Process** 





A multidisciplinary team assesses the key qualification areas and the specific criticalities

#### Vendor Feedback

- Phase Evaluation: Procurement. Engineering, Expediting, Execution, Assistance at site
- Area Evaluation: Punctuality, Behaviour, Quality

Performance **Validation** 



Awareness on potential risks and benefits. Take the appropriate actions on qualification status



#### **VERC MODULE**

#### **Check points**

#### 1.Qualification and General Data

- Qualification status
- Registration Country
- Holding Company or part of a Group
- Main Activities Recorded
- Consistency with Scope of Work

#### **3.Ownership Structure**

- Shareholding clear and attributable to operating companies and / or individuals
- Presence of trust companies / or companies with hidden / unclear control chain
- Presence of bearer shares

#### 2. Operative And Financial Data

- Company Capital
- Net Asset
- Turnover
- Number of employees
- Net Asset, Turnover and Organization consistency with SoW
- Level of financial index/failure risk: Financial Rating

#### **4.Company Key Representatives Check**

- Presence of Politically Exposed Person and/or members of the Company with alleged involvements directly / indirectly in any offence (Open-source check, Terrorist List check, PEP & PIL check)
- Presence of related parties of Saipem (to PO only)



- GREEN VERC: no criticality highlighted. Approved by VEMI/PD Manager in PWS.
- YELLOW VERC: some criticalities have been detected (severe financial warnings, corruptions, illicits) verified by PROCPO VEMI and BINT. Approved by PROCPO/PD Manager in PWS and by HoPaPO/Project Manager (offline).
- **RED VERC:** severe criticalities detected. Escalation FORM-COR-PRO-049-E approved by Senior Top Management required in order to release the VERC.



### **E&C Offshore Supply Chain Process**

#### **Vendor Management: main figures**

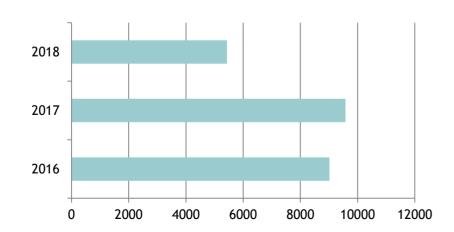
#### **Vendor Management Organization**

- 2 main centers (Chennai and San Donato Milanese)
- # 7 Vendor Qualification Auditors
- # 17 Vendor Qualification Specialists
- # 6 Vendor Performance & Feedback Specialists

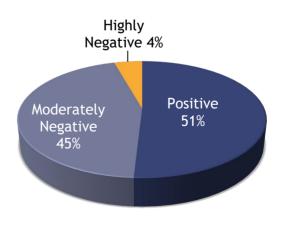
#### 24.753 Vendors Active\* North Africa CIS South 2% 6% Central Africa Europe 11% 32% Oceania & \_ Asia 12% Middle East **Americas** 14% 23%

\* additional 7.738 Vendors Active only for Scouting

#### Qualification processes (2016-2018)



#### Feedbacks on 3969 Vendors









# Questions....

Foundations & Electrical Balance of Plant - Structures

11:15 - 11:30 Foundation Package

Who: Vincenzo De Rosa, Saipem, Project Procurement Interface Manager

Claire Sternfalt, Saipem, Project Procurement Coordinator (Renewables)

11:30 - 11:35 Structures Q&A (Slido - pre-submitted and interactive questions)

Who: David Sweenie, Facilitating Change





# In depth: NnG Procurement requirements

**Developer / Project** 

11:35 - 11:50 NnG Project Procurement Lookahead

Who: Sioban Butler, NnG Procurement Manager





# NnG project procurement lookahead

Sioban Butler, Procurement Manager

02 – 05 March 2020 - East Lothian, Fife, Dundee, Aberdeen





Introduction

Status of Procurement

Timeline

**EDF Procurement Process** 

## **Status of Procurement – Where are we?**

- Post Financial Close
- Procurement of Tier One Contractors has been completed
- Bulk of future procurement activity sits with the Tier One contractors
- NnG procurement will now focus on:
  - Support during the Construction Phase
  - Delivery of the O&M scopes



# **Support during Construction Phase**

Services required during the Construction Phase will include:

- Quality Assurance Services
- Bird Monitoring
- Additional site surveys
- CTVs
- PPE
- FLOs
- Guard Vessels



# **Support during Construction Phase**

Services required during the Construction Phase will include:

- Quality Assurance Services
- Bird Monitoring
- Additional site surveys
- CTVs
- PPE
- FLOs
- Guard Vessels



## **O&M Services**

- Procurement of the O&M scopes of work will be a key focus for the department
- Wide range of services required examples
- Bathymetric surveys
- Pontoon design and construction
- Onshore site investigation
- Electrical Balance of Plant Maintenance (OFTO & Non OFTO)
- O&M Building Maintenance
- Vessel Charter
- HV Safety Rules and SAP support



## **Timeline**

- Procurement on the Construction Support ongoing until 2022
- O&M Support:

Procurement plan being developed

Key activity is design and construction of the O&M Building and Pontoon – commence March 2020

HV Safety Rules and SAP support – Q2 2020

Additional support services Q2 2020 onwards



### **Procurement Process – Supply Chain Policy**

- Procurement Activities on the Neart na Gaoithe Project are carried out in accordance with the EDF Supply Chain Policy
- All Supply Chain activities shall be conducted safely and ethically in a controlled and sustainable manner to deliver consistent quality outcomes that deliver best 'through life' value for EDF Energy, always consistent with our Ambitions and Values and in accordance with the associated Mandatory Practices
- All contracts and orders shall be placed with vendors that have been pre-qualified in line with defined criteria and registered on EDF Energy's Vendor Master Database. Vendors shall maintain their compliance to these criteria through the duration of all contracts and orders.



### **Procurement Process – Supply Chain Policy**

The Supply Chain Functions shall be compliant with all relevant legislation and regulations. In support of our Ambitions and Values:

- EDF Energy's Supply Chain shall be compliant with the 10 Principles of the United Nations Global Compact; and
- EDF Energy shall not tolerate any form of illegal activity (such as Modern Slavery, fraud, bribery or tax evasion) within its Supply Chain; and
- EDF Energy and its Supply Chain shall have appropriate defence mechanisms in place against the incorporation of non-conforming, counterfeit, suspect and fraudulent items in the Goods and Services supplied to EDF Energy; and
- EDF Energy shall seek to measure and reduce the environmental impact of its Supply Chain.



### **Procurement Process – HICX Registration**

- NnG utilises the central EDF Energy Vendor database HICX
- Database covers all EDF business streams
- Vendors can be approached for enquiry before they are registered on the database
- Will be required to complete questionnaires during the ITT phase as pre-qualification in addition to demonstrating capability to carry out the scope of work.
- Will still be required to register on the HICX database if successful







# In depth: Scottish clusters

Supply Chain -Scottish Clusters 11:50 - 12:05 Forth & Tay Offshore / Deepwind Cluster Overview

Who: Alan Duncan (Scottish Offshore Wind Energy Council)

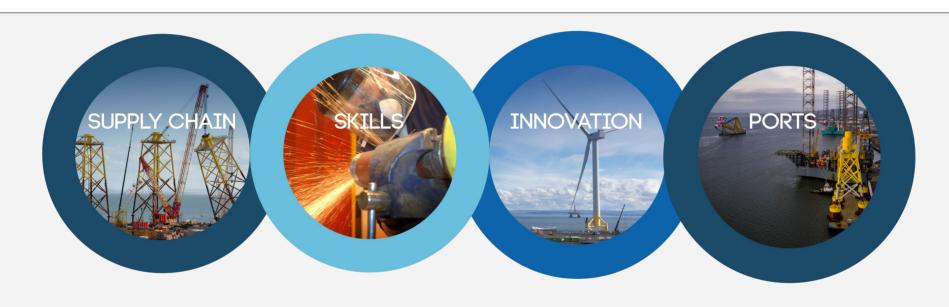




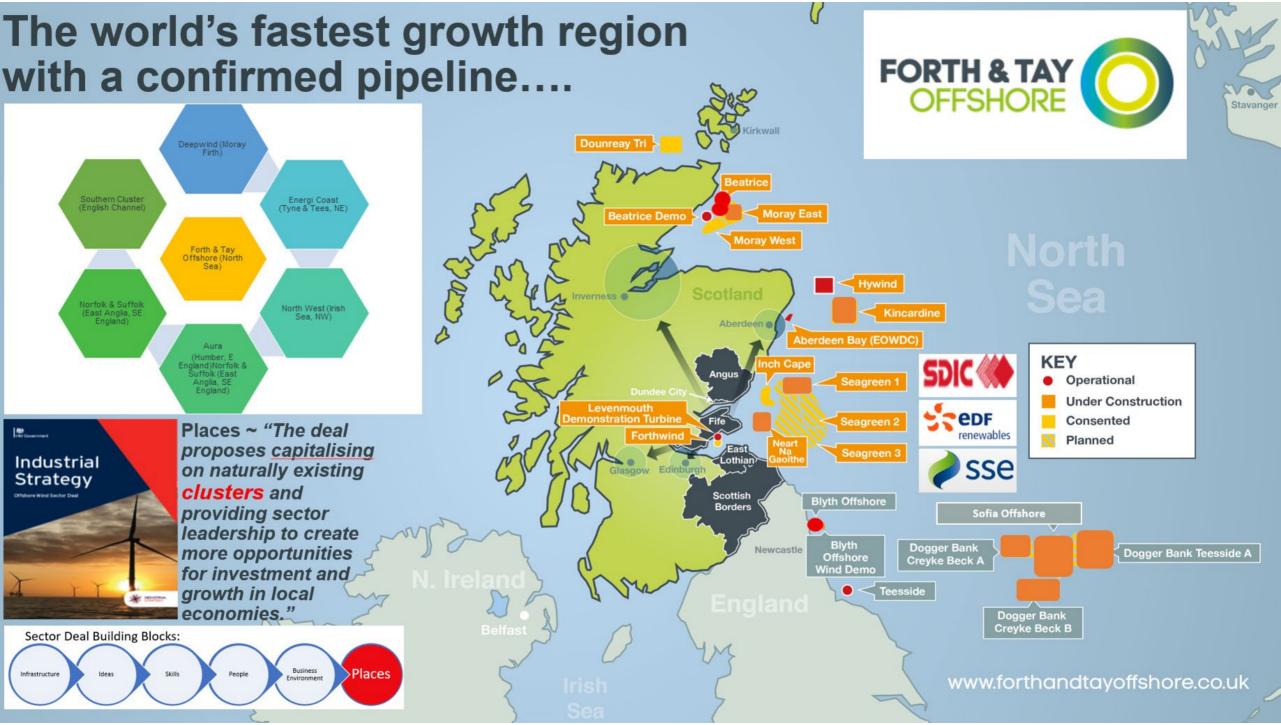








Delivery partner for NnG Supply Chain Events March 2020



# Forth & Tay potential to 2030





**Kincardine** 

In Construction

Developer: KOWL

Capacity: 50MW (6 turbines)

Distance to shore: 15km

Status: Site prep / Component manufacturing / Post-FiD

Known contractors:

Turbine ~ MVOW (9.5MW)

Foundations ~ Navantia (Floating)

Array cables: Prysmian

Export cables: Prysmian

Forecast online: 2020



Developer: EDF Renewables

Capacity: 450MW (54 turbines)

Distance to shore: 16km

Status: Site prep / Post-FiD

O&M Base: Evemouth (CTV)

Forecast online: 2023

Known contractors:

Turbines ~ SGRE (8.0MW)

Foundations ~ Saipem (Jackets)

Neart na

Gaoithe

Cables ~ Prysmian

Substation - GE Grid

Turbine Installation ~ Fred Olsen

Cable Installation ~ DEME



Developer: SSE

Capacity: 1075 of 1500MW (max 150 turbines) successful in 2019 CfD 3 auction

Distance to shore: 27km

Status: Site prep / Pre-FiD

O&M Base: Montrose (SOV)

Forecast online: 2023



Known contractors:

Turbines ~ MVOW (9.5MW)

Cables - Nexans

Substation - Petrofrac

1.6GW by '23 (11% of UK 14.1GW)

### **Consented Pre-Construction**



Inch Cape

Developer: Red Rock Power

Capacity: 784MW (to 1000MW))

Distance to shore: 15km

Status: Consented / Pre-CfD



Developer: SSE

Capacity: to 3250MW

Distance to shore: 15km

Status: Planning



With a pipeline of 10GW+ in Firths of Forth & Tay, 4-5GW by '30 is not unrealistic (to 20% of UK total)



# Why F&TO?



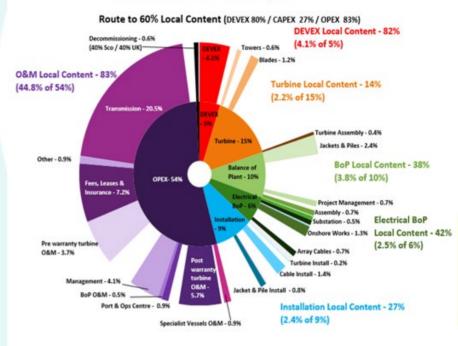
F&TO is a supply chain-led not-for-profit delivery workstream of the Scottish Offshore Wind Energy Council

Developers, Government, Enterprise Agencies, Local Authorities and Supply Chain are supporting the F&TO Cluster concept because:

- It provides a consolidated 'landing point' for overseas tier
   1 contractors coming to the region
- It fosters collaboration and innovation by facilitating the identification of economies of scale
- It provides a mechanism for enabling local infrastructure investment
- It promotes an end-to-end lifecycle focus within the region:



#### The Scottish Reality?



Helping to develop local infrastructure business cases Providing sector news and routes to overseas markets Helping to shape regional skills and training initiatives Showcasing local companies and regional capabilities

Facilitating buyer / seller interface

Strategic targeting of inward investors Link to regional innovation and research entities

Signposting to expert and funding support

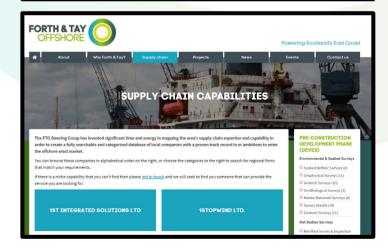
# Powering ahead in 2020

- Q4 2019 ~ F&TO Launch Roadshow: we will be back in touch with the 150 expressions of interest
- Jan'20 ~ Scottish Cluster Event: Additional companies coming forward
- Mar'20 ~ Delivery Partner NnG MTB: Over 450 companies already signed up
- Mar'20 ~ OSW for Newbies: Supply chain-led networking events anticipated throughout the year
- 2020 ~ Business development & Learning: Series of inward delegation visits and supply sub-element deep-dive workshops to be announced
- 2020 ~ Second draft of the UK's most detailed regional supply chain map to be issued; F&TO playbook, website rework and regional capability case studies to be developed
- 2020 ~ Continue to play a key role in the OWIC-sponsored UK Cluster Group; collaborating via corridors of trade
- 2020 ~ Planning ongoing for representing regional capabilities at All Energy, Global Offshore Wind and Offshore Europe; marketing F&TO regional capabilities



**Our new** website launches today





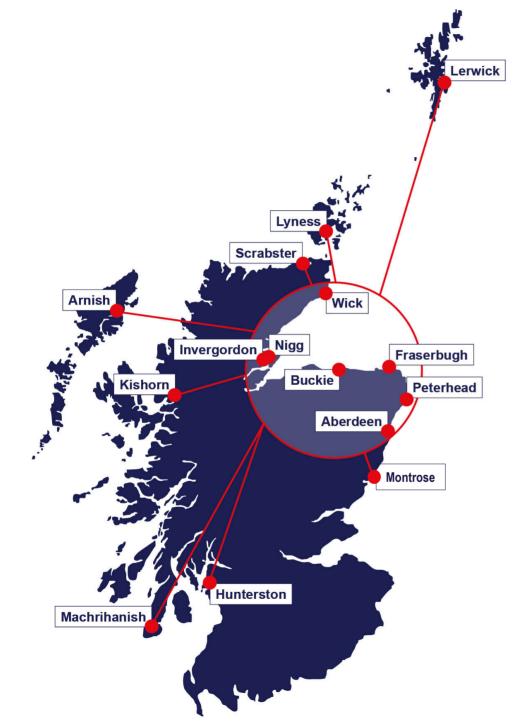




Come and visit us at our stand today.... aland@scotiasc.co.uk <a href="https://www.forthandtayoffshore.co.uk/contact/">https://www.forthandtayoffshore.co.uk/contact/</a>







## The Cluster

- Hub and spoke structure
- Hub centred on Moray Firth and Aberdeenshire Coast projects (Place)
- Spokes extending to centres of offshore fabrication activity and port infrastructure in other areas of Scotland





- Active from May 2019
- Currently 275 members and still growing
- Membership Includes
  - 15 Offshore Wind Developers
  - 1 OEM Turbine Manufacturer
  - 5 Tier 1s
  - 16 Ports and Harbours
  - 4 Councils
  - 4 Universities
  - 2 Associations- AREG and Subsea UK
  - 250 supply chain companies from micro SMEs to multi-national companies

# Membership

Largest offshore wind cluster in the UK

UK's Lead Floating Wind Cluster





### DeepWind will work closely with partner organisations to flag up opportunities to members

- Developer member challenge calls
- Carbon Trust Floating Offshore Wind JIP
- Innovate UK KTN innovation calls
- ORE Catapult OWGP and Centre of Excellence in Floating Wind
- Advanced Manufacturing NMIS, LMC and AFRC







- SMART Scotland innovation feasibility and grant funding
- R&D Grants HIE and Scottish Enterprise.























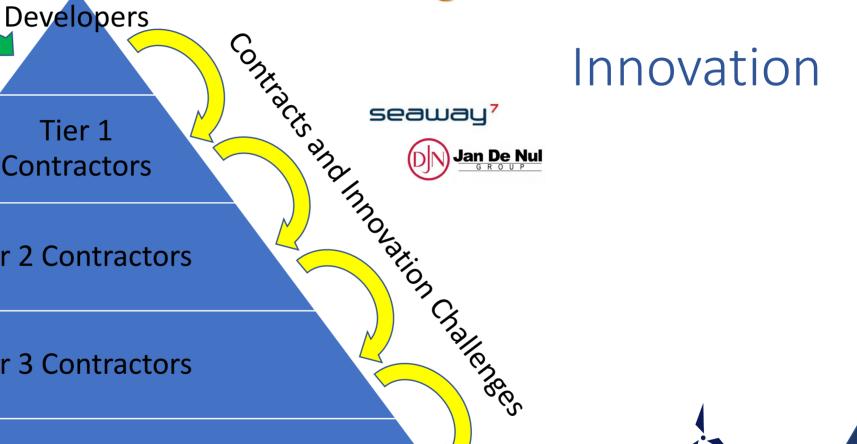












**Tier 2 Contractors** 

Tier 1

**Contractors** 

**Tier 3 Contractors** 

**Tier 4 Contractors** 



# Cross-sector collaboration and Blue Economy





- Oil and Gas Energy Transition especially for floating wind's role in the Net Zero Basin target for the UKCS by 2035 – ONE, OGA and OGTC
- Large Scale Green Hydrogen using offshore wind for onshore and offshore production of hydrogen- SHFCA
- Collocation of Aquaculture looking at opportunities for synergies between the industries – OREC and SAIC
- Maritime- transport, shipping and marine tourism
- AI, IIoT, Data Centres and Supercomputers powered by offshore wind – perhaps even subsea data centres – à la Microsoft?





















# Draft Plan Options - Options subject to ornithological mitigation measures Scrabster Invergordon Nigg Fraserbugh Buckie Peterhead Aberdeen Montrose Hunterston Machrihanisl

# ScotWind Leasing Round



- Crown Estate Scotland ambition is for a further 8-10GW
- Successful lease bidders will be announced in Autumn/Winter 2020
- This could more than double Scotland's existing 7.7GW pipeline (only 1GW built so far)
- Most of the DeepWind developers are talking part in the bidding process

Scotland would become a world top ten offshore wind market

Deep\

North of Scotland Offshore Wind Cluster





Networking

### Questions....

12:05 - 12:30 Close (Final Q&Q, Overview of PM session, NnG Activity Lookahead)

Who: David Sweenie, Facilitating Change

12:30 - 13:00 Networking Buffet Lunch





❖ Afternoon session: 1-2-1 meetings

❖ Afternoon session: Share Fair

#### Proposed Afternoon Session Agenda (13:15 - 15:00):

#### **Share Fair Presenters:**

10 min slots in on main 'theatre' stage

13:15 - 13:25 Supplier Development Programme Scotland - Fran Goldie, Supplier Development Officer

13:25 - 13:35 Energy Skills Partnership - Jim Brown, Director

13:35 - 13:45 ORE Catapult - Claire Canning, Offshore Wind Growth Partnership - Programme Manager

13:45 - 13:55 Scottish Offshore Wind Energy Council: Clusters - Alan Duncan, Workstream Lead

#### NnG 2020 Lookahead

Session close

#### **Share Fair Stands:**

**Stand 1** Forth & Tay Offshore Cluster

Stand 2 ORE Catapult

Stand 3 Supplier Development Programme Scotland

Stand 4 Energy Skills Partnership / Fife College

